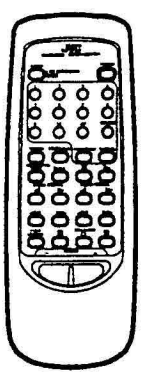
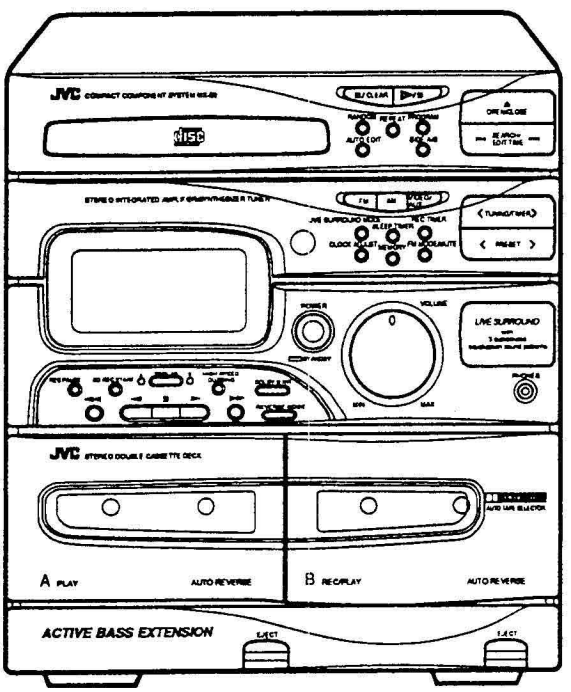
JVC

SERVICE MANUAL

CA-MXS2BK





COMPACT disc DIGITAL AUDIO

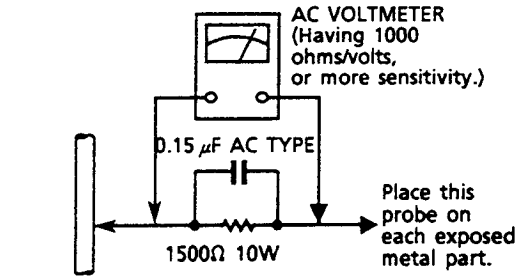
Contents

Safety Precautions 1-2
Important for Laser Products 1-3
Instruction Book 1-4

No. 20399
Feb. 1993

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION : If safety switches malfunction, the laser is able to function.
6. CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. CAUTION : The compact disc player provides a laser diode of wavelength 780-790nm and optical output power typical 3mW at the laser diode.

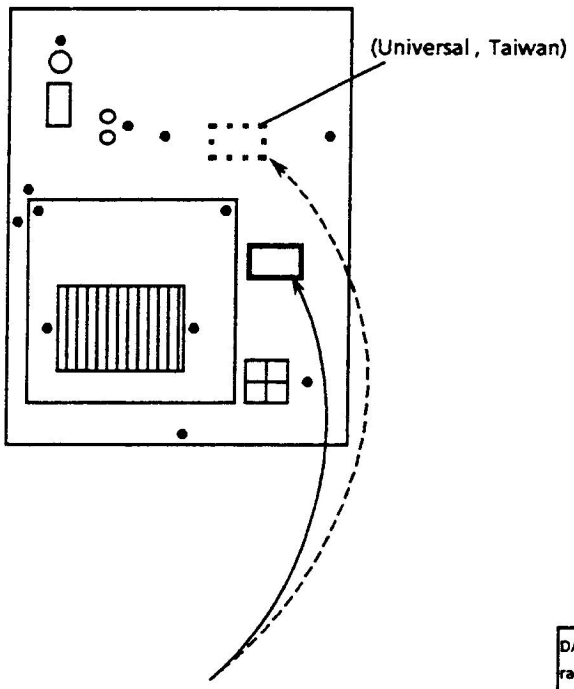
VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

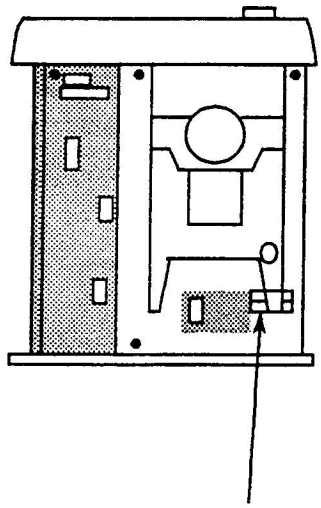
VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

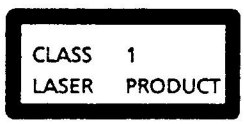




WARNING LABEL

(Except for the U. S. A.)

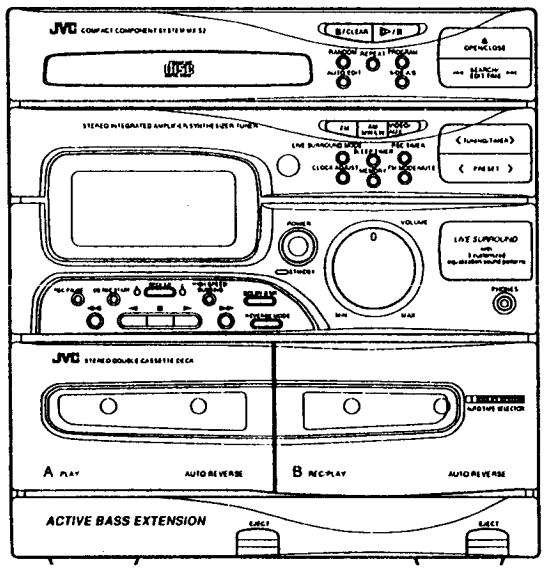
DANGER: Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	VARNING: Osynlig laserstråling när denna del är öppnad och spärren är urkopplad. Betrakta ej stålen. (s)
ADVARSEL: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsættelse for stråling. (d)	VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

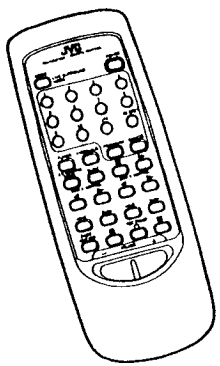


CLASSIFICATION LABEL

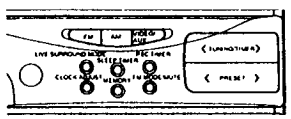
(Except for the U. S. A. and Canada)

Control Panel and Remote—Illustrations
Bedienfeld und Fernbedienung—Abbildungen
Panneau de commandes et télécommande—Illustrations
Bedieningspaneel en afstandsbediening — Afbeeldingen
Ilustraciones del panel de control y del controlador remoto
Pannello comandi e telecomando—Illustrazioni





Tuner Section for Canadian Model
Tuner-gedeelte van het Canada model
Section tuner pour le modèle canadien
Tuner-gedeelte van het canadese model
Sección del sintonizedor del modelo para canadá
Sezione sintonizzatore del modello per il Canada



English
English
Deutsch
Français
Nederlands
Español
Italiano

Table of Contents

Control Panel and Remote— Illustrations G-4

Features 2
- How to Put Batteries in the Remote Control 2

Connection Diagrams and Instructions 3
- Connecting the AM (MW/LW) and FM Antennas 3

Connecting the Speakers 4
Connecting Auxiliary Equipment 4

Read Me First 5
- How This Manual Is Organized 5

Getting Started Right 6
- Unpacking 6
- Location 6
- Set Up 6
  - 1. Connect the Antenna(s) 6
  - 2. Connect the Speakers 6
  - 3. Put Batteries in the Remote Control 6
  - 4. Connect a VTR or TV (Optional) 6

Common Operations 7
- COMPUPLAY 7
- Turning the CA-MXS2BK On 7
- Turning the CA-MXS2BK Off 7
- Controlling the Sound 7
  - Volume Control 7
  - Special Effects Control 7
- Listening with Headphones 8
- The Display and the LEDs—Two Very Useful Hints 8

Listening to the Radio 9
- One Touch Radio 9
- Tuning in a Station 9
- Presetting Stations 9
- Receiving in Stereo or Mono 9

Listening to a Compact Disc 10
- Basics of Using the CD Player 10
  - To Load, Play, and Stop a CD 10
  - How to Find the Track or a Particular Point You Want 10
  - Locating a Track with the Remote Directly 10
- Programming the Playing Order of the Tracks 10
  - Random Play 10
  - Programmed Play 11
- Repeating a Selection or the Entire Disc 11

Listening to a Tape 12
- Playing Back a Tape 12
- Easy-to-Use Tape Control Panel 12
- One Touch Play 12
- Regular Play 12
- Fast Left and Fast Right 13
- Music Scan 13
  - Scan Forward 13
  - Scan Back 13

Listening to a VTR or TV through your CA-MXS2BK .. 14

Recording 14
- Things to Know before You Start Recording: 14
- Standard Recording 15
- Recording any Sound Source to Tape 15
- CD to Tape Recording 15
  - CD Direct Record 16
  - Recording a CD onto a Tape Using Auto Edit 16
- Tape to Tape Recording (Dubbing) 17
  - How to Copy a Tape With Regular Speed Dubbing 17
  - High Speed Dubbing 17

How to use the Timers and Set the Clock 18
- Clock Setting 18
- Setting the Recording Timer 18
- Sleep Timer 19

How to Use the Remote Control 20
- Using the 10 Key pad 20

Care and Maintenance—General Notes 21
- Compact Discs 21
- Cassette Tapes 21
- Tape Deck 21

Troubleshooting 22
Specifications 22

Features

Here are some of the things that make your CA-MXS2BK powerful and easy to use.

Great Sound

- To get such **great sound** from such a compact package the CA-MXS2BK has pre-programmed sound effects like **DANCE CLUB, HALL, STADIUM,** and **LIVE SURROUND** so you don't have to be a sound engineer to get great effects. **ACTIVE BASS EXTENSION** automatically works to maintain the richness and fullness of the sound when the volume level is getting lower.

Easy Operation

COMPUPLAY

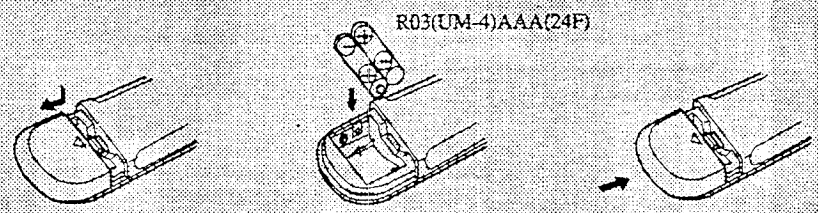
- The controls and operations have been redesigned to make them very easy to use so you can spend your time listening to music.
  - With the One Touch Operation feature of JVC's new **COMPUPLAY** you can turn on the CA-MXS2BK and start the radio, the tape deck, or the CD player with a single touch.
  - Two timers, **SLEEP,** and **REC TIMER** are extremely easy to set so you can really use them.
  - The **Display area** is large and clear. It's organized so you can tell at a glance what's happening because functions light up as you use them, and blink to tell you they are ready.
  - **Auto Edit** figures out how to arrange CD tracks on a tape. When you are recording a tape from a CD, the selections aren't cut off if the tape ends before the selection does.

IMPORTANT CAUTIONS

1. **Installation of the Unit**
- Select a place which is level, dry and neither too hot nor too cold (between 5°C and 35°C).
- Leave sufficient distance between the Unit and your TV.
- Do not use the Unit in a place subject to vibrations.
2. **Power cord**
- Do not handle the power cord with wet hands!
- When unplugging from the wall outlet, always pull the plug, not the power cord.
3. **Malfunctions, etc.**
- There are no user serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
- Do not insert any metallic object into the Unit.

How to Put Batteries in the Remote Control

Match the polarity (+ and -) on the batteries with the + and - markings on the battery compartment.



CAUTION: Observe Proper Handling of Batteries

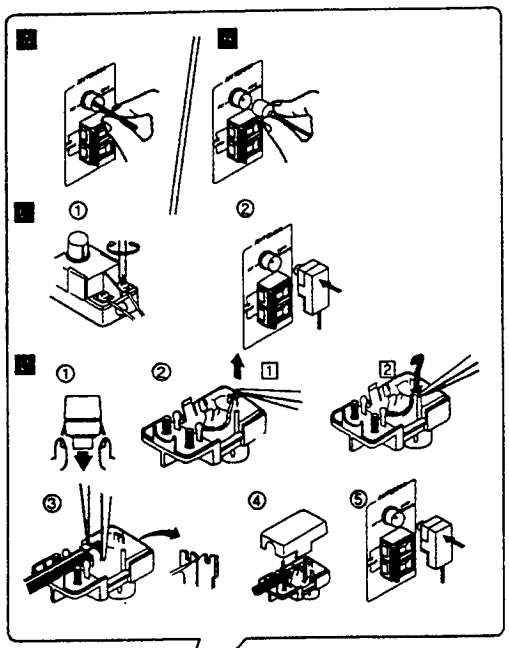
To avoid battery leakage or explosion:

- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.
- Don't use different types of batteries together.

Connection Diagrams and Instructions

Connecting the AM (MW/LW) and FM Antennas

FM Antenna Connections



For Germany

A Using the Supplied Wire Antenna

The FM wire antenna provided can be connected to a FM 75-ohm COAXIAL as a temporary measure.

B Using the Coaxial Type Conector (Not Supplied)

A 75-ohm antenna with coaxial type connector (DIN 45332) should be connected to the FM 75-ohm COAXIAL terminal.

For Other Countries

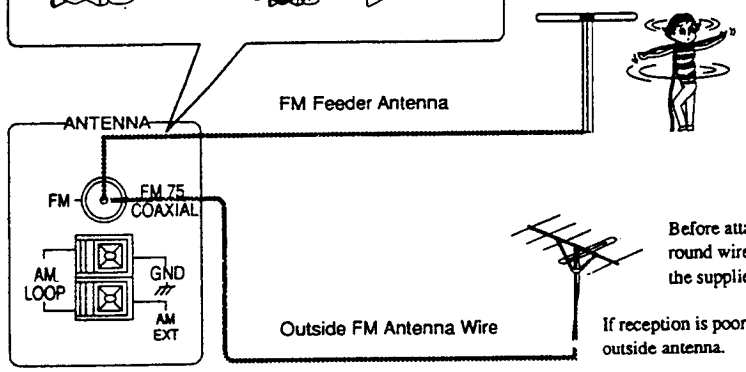
C Using the Supplied Feeder Antenna

① Attach the feeder antenna to the Antenna Adaptor as shown in the figure.
② Connect the Antenna Adaptor to the FM 75-ohm COAXIAL terminal.

D Using FM 75-ohm Antenna Cable (Not Supplied)

① Open the claws at both sides and remove the cover.
② Move the conductor wire from [1] to [2] using tweezers or similar tool (only when using coaxial cable).
③ Fix the coaxial cable and its core.
④ Put on the cover.
⑤ Connect the Antenna Adaptor on the FM 75-ohm COAXIAL terminal.

Note:
Make sure the antenna conductor do not touch any other terminals, connecting cords and power cord on the system.
This could cause poor reception.

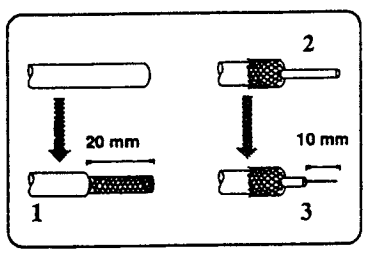


For Germany
Extend the supplied wire antenna horizontally.

For Other Countries
Unfold the loops of the supplied dipole FM feeder antenna and extend them as shown. Fasten them up in the position which gives you the best FM reception.

Before attaching a 75 ohm coaxial lead (the kind of round wire going to an outside antenna), disconnect the supplied dipole indoor antenna.

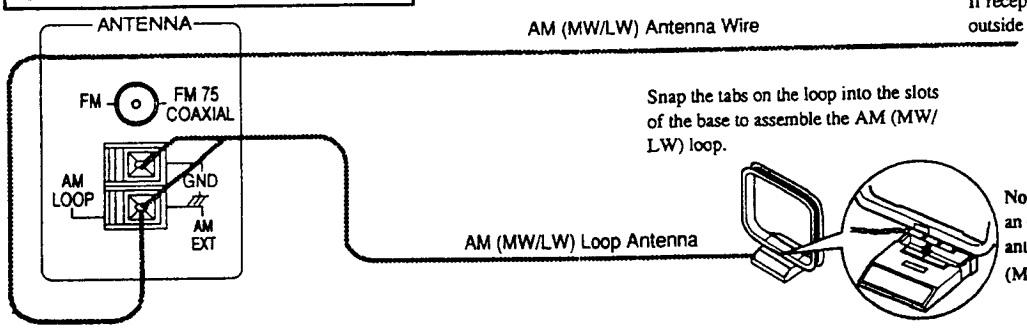
If reception is poor, connect the outside antenna.



How to Strip the 75-ohm Coaxial Cable

1. Strip back the outside covering of the 75 ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single connector as shown.
3. Strip the insulation about 10 mm back from the central wire.
4. Attach to the supplied Antenna Adaptor, as shown in the diagram above.

AM (MW/LW) Antenna Connections

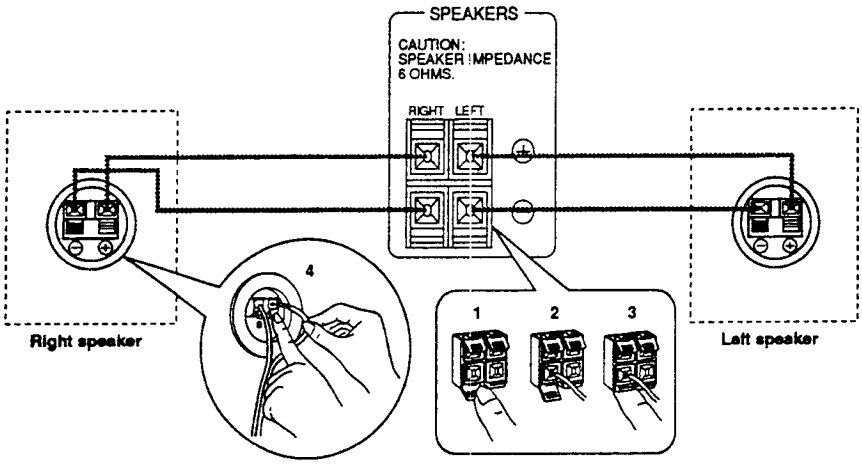


If reception is poor, connect the outside antenna.

Snap the tabs on the loop into the slots of the base to assemble the AM (MW/LW) loop.

Note: Even when connecting an outside AM (MW/LW) antenna, keep the indoor AM (MW/LW) loop connected.

Connecting the Speakers



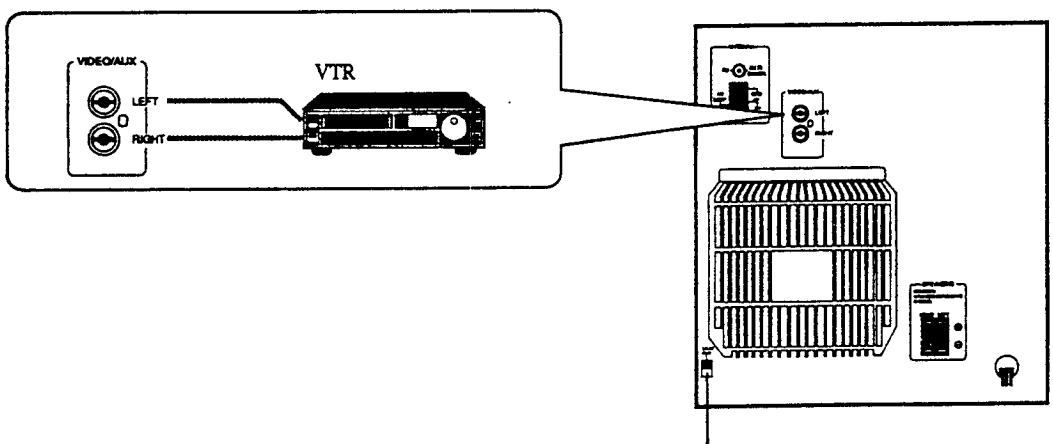
For each speaker connect one end of the speaker wire to the speaker terminals on the back of the CA-MXS2BK and one end to the speaker. On the back panel:

1. Open each terminal.
2. Insert the end of the speaker wire as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker wires firmly in place.
4. Connect the red (+) and black (-) terminals of the right side speaker to the red (+) and black (-) terminals marked RIGHT on the CA-MXS2BK.
   Connect the red (+) and black (-) terminals of the left side speaker to the red (+) and black (-) terminals marked LEFT on the CA-MXS2BK.

IMPORTANT: Match the polarity of the speaker terminals with the polarity of the terminals on the CA-MXS2BK, red (+) to red (+) and black (-) to black (-). Check your speakers for correct impedance: Speakers 6 ohms only.

Connecting Auxiliary Equipment

VTR or TV



When recording an AM (MW/LW) broadcasting program, beat sounds may be heard and recorded. Set the BEAT CUT selector to either 1 or 2, so that beat sounds will not be heard nor recorded. (Except for Canadian model)

Read Me First

How to get the most for your money by using this manual.

The Engineers at JVC have made the CA-MXS2BK very easy to use, and if you are experienced using audio equipment, you can figure out how to use some of the CA-MXS2BK controls by yourself. However, we have built some new features into this model, which you can learn about easily from the manual.

If you are a new user or just want a review, this manual explains how to use the CA-MXS2BK and take advantage of its features for playing and recording music, as well as other sounds. One way to use this manual is to read it through now and refer back to it when you need to refresh your skills for some special operation. Of course you can just look up the topics, such as recording a CD, that you want to do, but remember that you may need to refer to other parts of the manual for some of the instruction: for instance, in explaining how to record a CD, we assume you already know how to load a CD. That's why we recommend that you read the manual through once before starting. We've made it short, and easy to follow.

However before you proceed, please read the IMPORTANT CAUTIONS on page 2 and the set-up directions.

IMPORTANT!
Special features for a special Manual.

How This Manual Is Organized

This is a special manual, designed to accommodate several languages. To keep the size from becoming too great, yet still give you a top quality instruction manual, we have incorporated some special features:

- A fold-out page to look at while you read the instructions shows the front controls of the CA-MXS2BK. Some procedures have the illustrations of which control to use right with them, and for some you will need to look at the fold-out for the illustration.
- Basic information that is the same for many different functions is grouped in one place, and not repeated in each procedure. For instance, in the section on playing a CD, we do not repeat the information about setting the volume and the sound conditioning, which are talked about in the Common Operations section.
- Names of buttons, controls and function names that light up on the display panel are written in all Capital letters like this: POWER.
- When we are talking about the Function, rather than the BUTTON or DISPLAY, then we just capitalize the first letter of the words.
- The ☞ alerts you to important information or how to solve special problems that may occur when using the CA-MXS2BK.

The column on the left of the page is a special place to make it easier to find just what you want to know about, with little headlines announcing what each part of the page is about. Sometimes illustrations and helpful hints are placed here also.
Basically we use three kinds of information to help you understand and use the CA-MXS2BK:

- ❑ Information about what you can do (such as record a CD or preset a radio station) and how the Unit is designed to make doing this activity easy.
- ❑ Procedures, usually numbered in the order you do the steps, to guide you in exactly what to do to accomplish something, such as tune a radio station or record a tape.
- ❑ Information you need to know to make decisions about which functions of the CA-MXS2BK to use for particular tasks (such as when to use Dolby NR to improve tape sound) and special hints to make your work go smoothly, like reminding you to set the sound effects before starting the CD to tape recording, since they cannot be changed once recording begins without starting completely over.

The manual has a table of contents to help you easily look up what you want to know.
We've enjoyed making this manual for you, and hope you will use it to enjoy the sound and many features built into your CA-MXS2BK.

Getting Started Right

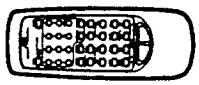
Unpacking

Inside the packing box....

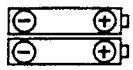
Of course you have already opened your CA-MXS2BK carton, since you are reading this manual. Although the Unit is quite sturdy, you may want to save the packing to re-pack your CA-MXS2BK in case you are moving it some distance.

Check to be sure you have all of the following things, which are supplied with the CA-MXS2BK:

AM (MW/LW) Antenna



Remote Control



Batteries

FM Wire Antenna (only for Germany)

FM Feeder Antenna (except for Germany)

Antenna Adaptor (except for Germany)

If any are missing, contact your dealer immediately.

Location

Where can you put it?

You can place the CA-MXS2BK in many different kinds of locations to suit your needs; just observe the cautions on page 2: keep away from moisture and heat; leave some space between the Unit and its surroundings, more than 1 cm at the sides of the console and 10 cm at the back.

Set Up

Very little assembly required

You will need to do the following four things to get your CA-MXS2BK ready to use.

1. Connect the Antenna(s).
2. Connect the Speakers.
3. Put Batteries in the Remote Control.
4. Connect a VTR or TV (Optional).

1. Connect the Antenna(s)

Please look at the diagrams on pages 3 and 4 to do these things.

Follow the diagrams on page 3. Here's what you need to know:

- For AM (MW/LW) reception you must connect the supplied loop antenna. If reception is poor, connect the outside antenna, but leave the loop antenna in place—the AM (MW/LW) will not work correctly without it.
- For FM reception, connect the supplied wire as shown. However, if you use an outdoor antenna, disconnect the indoor FM antenna first.
- To avoid noise, keep antennas away from metallic parts of the CA-MXS2BK, connecting cords and the AC power cord.

2. Connect the Speakers

Basically, you look at the diagrams on page 4 and follow the pictured instructions.

3. Put Batteries in the Remote Control

Pay close attention to getting the batteries in correctly—we've made it very easy, just match the + and - marks on the batteries with the + and - markings on the Remote. See page 2 for instructions

> **CAUTION:** Handle batteries with care. See page 2 for proper use of batteries.

4. Connect a VTR or TV (Optional)

You can play the sound portion of a TV program or video tape through your CA-MXS2BK's sound system, often improving it greatly. To do this, a VTR or TV can be hooked up to play through the CA-MXS2BK Just follow the diagram on page 4.

Now you can plug the AC power cord into the wall socket, and your CA-MXS2BK is at your command!

> **CAUTION:** First make all connections before plugging the Unit into any AC power outlet.

Read on and find out how to use the many features built into your Unit.....

Common Operations

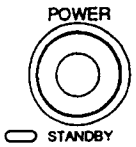
Here are the things that apply to all the functions of your CA-MXS2BK. If something in a procedure is unclear to you, check back here.

COMPUPLAY

The Magic of COMPUPLAY

COMPUPLAY is JVC's new feature that lets you control the most used functions of the CA-MXS2BK with a single touch. This One Touch Operation starts playing a CD, turns on the radio or plays a tape with a single press of the play button for that function. What One Touch Operation does for you is to turn the power on, then start the function you have called for. If the Unit is not ready, such as no CD or tape in place, the Unit still comes on and then pauses so you can put in a CD or tape.
How One Touch Operation works in each case is explained in the section about that function.

Turning the CA-MXS2BK On



Press POWER; the STANDBY indicator goes out.

- The CA-MXS2BK comes on ready to do whatever it was doing when the power was last shut off. So if the last thing you were doing was listening to a tape in deck B, you now are ready to listen to a tape again in deck B, or you can change to another source.
- If you were listening to the radio last, the radio comes on playing that last station.

Be sure to read the caution at the end of this section concerning sound levels, and possible damage to your hearing or the equipment.

Turning the CA-MXS2BK Off

Press POWER again; the STANDBY indicator lights up and the display blanks, except for the clock display.

- The small amount of the power (13 watts) is always consumed even in the stand-by mode.
- To switch off the Unit completely, unplug the AC power cord from the AC outlet.

Controlling the Sound

Making it sound the way *You* want it to:

The same set of buttons and knobs control the sound, no matter which function is producing it. Here we will briefly explain how these controls work, and how you can use them to increase your enjoyment of the music.

Volume Control

•Volume

Rotate clockwise to increase loudness, counter-clockwise to reduce loudness. Be sure to read the caution at the end of this section about high sound levels damaging your hearing or your equipment.

Special Effects Control

•LIVE SURROUND
•DANCE CLUB
•HALL
•STADIUM

The four preset special effects to condition your sound output are selected with the LIVE SURROUND MODE button located just off the right hand corner of the display. On the lower left side of the display you will see the four effects shown as LIVE-S, D. CLUB, HALL and STADIUM. The one currently selected is highlighted. Using these effects gives you control of the way your music sounds, so you can tailor it for your room and for the quality of the source. We can give you some idea of how each one affects the music, but the only way to really tell is to try them yourself. Depending on the way each recording is made, or the quality of the radio signal, they will affect different pieces differently. Feel free to experiment!

Selecting Sound Effects

- You select a sound effect by pressing LIVE SURROUND MODE to cycle through the effects until the effect you want is highlighted in the display.
- Live Surround is a special effect that can either affect the music by itself (just LIVE-S is highlighted) or affect the music in combination with one of the other three effects. When both an effect and LIVE-S are highlighted, they are on together.
- To remove only Live Surround from the effect, just press LIVE SURROUND MODE and Live Surround is turned off. The next time you press LIVE SURROUND MODE, the present sound effect is turned off, and the next one is turned on along with Live Surround.
- To turn all the effects off, including Live Surround, press LIVE SURROUND MODE until nothing is highlighted.

Things to remember about using special effects:

- ❑ Experiment with and set your special effects *before* you start recording with CD Direct or Auto Edit, because once recording starts, the special effects cannot be changed without stopping recording, and often having to start over. If you need different sound effects for each selection, use the standard recording features described on page 15, rather than Auto Edit or CD Direct.
- ❑ Each of the special effects changes the sound in a different way by changing which parts of the sound are increased or reduced. To see how each part of the sound will be changed, watch the display just as you press an effect button when music is playing. You will see a graphical display showing the effect's pattern for just a short time before the effect starts.

LIVE-S
D. CLUB
HALL
STADIUM

- **LIVE SURROUND**—With this function the sound coming from only two speakers approaches the quality of sound from four speakers.
- **DANCE CLUB**—Increases resonance and bass
- **HALL**—Adds depth and brilliance to the sound, like in a concert hall
- **STADIUM**—Adds clarity and spreads the sound, like the sound in an outdoor stadium

ACTIVE BASS EXTENSION

Active Bass Extension

This feature is designed and incorporated to reinforce the bass sound, depending on the volume level to maintain the richness and fullness of the bass. You cannot control it manually.

Listening with Headphones

A standard pair of headphones can be connected at the PHONES jack on the front panel. No sound can be heard from the speakers. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**

The Display and the LEDs—Two Very Useful Hints

The Display and The LEDs

- ❑ The Display Panel tells you many useful things about what your Unit is doing. Watch it as you give instructions to the CA-MXS2BK by pressing buttons.
- ❑ A few of the controls have a small light, called an LED, next to or even right on the function button or knob itself. The light comes on when the function is on, and goes out when it is not in use.

What's Next?

Now that you know how to control the sound, go on to learn how to enjoy each sound source: Tape, CD, Radio, and Connected Equipment.

Caution: Too LOUD!

CAUTION: Always set the VOLUME control to MIN before turning on a connected source such as a VTR or TV, or starting any other of the sound sources such as the radio, tape, or CD player. Otherwise, if the VOLUME control is turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

(No. 20399) 1-11

Listening to the Radio

The controls for the radio are located in the Tuner section, just above the large volume control. With these controls you can browse through all the stations or use the preset function to go immediately to a particular station.

- To record from the radio, see "Recording any Sound Source to Tape," page 15.
- To set the timer to turn the radio off at a certain time, see "Sleep Timer," page 19.

First we'll explain how to tune in stations, and then how to preset the ones you listen to often.

COMPU PLAY

Radio

One Touch Radio

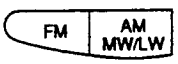
Just press AM (MW/LW) to turn on the Unit and start playing the most recent AM (MW/LW) station tuned in, or press FM to start the most recent FM station playing. If you press TUNER on the Remote instead, you can start playing the most recent station tuned in.

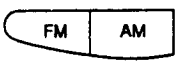
- ❑ You can switch from any other sound source to the radio by pressing either AM (MW/LW) or FM.

Tuning in a Station

Three ways to tune in a station

Press AM (MW/LW) or FM to turn on the radio. The display shows the frequency of the station tuned to.





You have 3 ways to select a station:

1. Press and release TUNING/TIMER < or > to move from station to station until you find the one you want.

   OR

2. Hold down TUNING/TIMER < or >, and the display cycles through all the stations one after the other. Release the button when you see the one you want.

   OR

3. Press once and release PRESET > to go to the next preset station, or hold PRESET < to cycle through the preset stations: release the button when the preset station you want shows on the display. (This method is possible after presetting stations by yourself.)

You can also use the Remote to tune in stations and preset channels:

- To tune preselected stations with the Remote:
  1. Press TUNER so that you can receive the most recent station tuned in.
  2. Select the station by entering the preset channel number in the 10 Key pad of the Remote. The Display shows the new channel number and frequency.

How to preset AM (MW/LW) and FM radio stations

Presetting Stations

Once a station is assigned to a channel number, the station can be quickly tuned either from the Remote using the 10 Key pad of the Remote or the CA-MXS2BK itself using PRESET < or > to call up the channel number.

- ❑ You can preset a total of 40 stations, either AM (MW/LW), FM, or a mixture of both, at random.
- ❑ Preset stations may be erased when power is cut off to the Unit, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the following procedure.

To preset radio stations:

1. Tune in the station you want to set.
2. Press MEMORY.
   - ❑ On the display, MEMORY will blink for 8 seconds. During these 8 seconds while MEMORY is blinking you can assign a channel number to the station and enter it into the memory.
3. Select a channel number by pressing PRESET < or > until you find the channel number you want.
4. Press MEMORY and the station will be assigned to the channel number showing on the display.

Receiving in Stereo or Mono

When an FM stereo broadcast is hard to receive or noisy:

- ❑ Press FM MODE/MUTE and reception will improve, although you will loose the stereo effect. In this state, you will hear some noise while tuning into a station.
- ❑ To restore stereo effect, press FM MODE/MUTE again so that AUTO appears in the display. In this state, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sound. Furthermore, in this state, you won't hear noise while tuning into stations.

Listening to a Compact Disc

COMPU PLAY

Compact Disc Play

The quickest way to start a CD is with One Touch Operation:

- ❑ Press Play/Pause ⊳/II on the CD player or Play ► on the CD CONTROL section on the Remote.
- ❑ If a CD is already loaded, the Unit automatically turns on and starts to play it from track 1.
- ❑ If no CD is loaded, the CD tray opens, and you can put in a CD, printed side up, press Play/Pause ⊳/II and the tray closes and the CD starts playing.
- ❑ If you press ≜ OPEN/CLOSE, the Unit automatically turns on and the CD tray comes out.

How to use the CD player: from the most basic to advanced

Basics of Using the CD Player

Here are the basic things you need to know to play a CD and locate the different selections on it. Each selection is called a track, so when we are talking about locating a track, we are also talking about how you find a certain song or performance.

To Load, Play, and Stop a CD

PLAY/PAUSE

1. Press ≜ OPEN /CLOSE.
2. Put a CD, printed side up, into the tray.
3. If you want to listen to the CD now, press ⊳/II and adjust the volume.
   - ❑ The CD tray closes automatically.
   - ❑ The display shows the track being played and the length of time since it started.
4. To stop the CD, press ■/CLEAR. When you start again, the CD begins with track 1.
5. To pause the play, press ⊳/II while the CD is playing so when you press ⊳/II again the CD starts just where you left off.
6. To remove a CD, press ≜ OPEN/CLOSE, take the CD out, and press ≜ OPEN/CLOSE again to close the tray. Keep the tray closed except during loading and unloading to protect the mechanism from dust and damage.

CD
Find track

How to Find the Track or a Particular Point You Want

- ❑ Each time you press briefly and release SEARCH /EDIT TIME ⏮ or ⏭ the track changes by one.
  - Press and release SEARCH/EDIT TIME ⏭ to go ahead one track at a time.
  - Press and release SEARCH /EDIT TIME ⏮ to go back one track at a time.
- ❑ Holding down SEARCH/EDIT TIME ⏮ or ⏭ will fast forward or fast reverse the CD so you can quickly find the particular part of a track you want to listen to.
- ❑ Holding down ⏮ or ⏭ on the CD CONTROL section of the Remote allows you to change tracks continuously.

Using the Remote to find a track

Locating a Track with the Remote Directly

Using the 10 key pad on the Remote allows you to go directly to the beginning of any track.

1. Press CD 10 KEY.
2. Enter the number of the track you want using the 10 key pad.
   - Example: for track 5, press 5. For track 15, press +10 then 5. For track 20, press +10, then 10.
3. As long as a CD is loaded and the Unit is on, as soon as you enter the number of the track you want, it will start to play.

With programming, you can play back tracks in any order

Programming the Playing Order of the Tracks

In addition to the high quality sound which makes the CD such a good way to listen to music, you can change the order in which the tracks play.

Random Play

RANDOM

Before starting a CD, press RANDOM on the CD player.

- ❑ The tracks will play in no special order.
- ❑ When all of the tracks have been played, the CD shuts off.
- ❑ Press REPEAT before or during random play to instruct the CA-MXS2BK to continue with a different random track selection after the last selection is played.
- ❑ To cancel random play, press ■/CLEAR.

Programmed Play

Program with the Remote

You can arrange the tracks to play in any order you like with the Program function. The Remote is very useful for this because you can select tracks by number with the key pad. See "How to Use the Remote Control," page 20, if you need more information about its use. You can also use the main Unit.

To program the CD track order from the Remote, follow this procedure:

How to program: just 5 easy steps

1. Press PROGRAM.
2. Press CD 10 KEY.
3. Press the number of the first track you want to hear, then the number of the second track, and so on until you have entered all the track numbers you want to play.
   - ❑ Refer to the section "How to use the Remote Control" on page 20 if you have questions about how to enter numbers above 10.
   - ❑ Your program can include up to 32 tracks, and you can repeat tracks if you wish.
4. Press Play/Pause ▷/II to start the program—the first track you programmed will start to play, followed by the next one you entered, until all the selected tracks are played.
5. To stop the CD during Programmed Play, Press Stop ■. To cancel the program, press PROGRAM on the Remote or ■/CLEAR on the main Unit.

To program the CD from the main Unit, follow this procedure

Programming from the front panel

1. Press PROGRAM.
2. Press SEARCH/EDIT TIME ⏮ or ⏭ to locate the track you want to start with.
3. Press PROGRAM to store the selected track.
4. Repeat steps 2 and 3 until you have entered all the tracks you want to program.
5. Press Play/Pause ▷/II and the Unit will begin playing the tracks in the order you programmed them.

A Few Hints to Make Programming Easier

Programming Hints

- ❑ If you want to change the number of a track you just entered, press CANCEL on the Remote, and enter another number. (When the display shows the total program time, press CANCEL twice repeatedly to remove the last selection entered.)
- ❑ If you want to change the entire program, press ■/CLEAR on the main Unit, and then you can start over.
- ❑ To view the order of the tracks in your program when it's playing, press Stop ■ on the Remote, then press ⏮ or ⏭ on the Remote to display the order of the tracks. Each time you press ⏭ the next selection in your program is displayed. (Press ⏮ for the previous selections.)
- ❑ To add a track to your program, just press the number you want to add.

Repeating a Selection or the Entire Disc

Repeat a selection or the whole CD

- ❑ You can have either the program or the individual selection currently playing repeat as many times as you like by pressing REPEAT. Each time you press REPEAT, it cycles from OFF, which turns the REPEAT indication out on the display, to REPEAT which will repeat all tracks in order or according to the program you have set, and REPEAT 1 which will repeat the currently playing track. To cancel Repeat, just press REPEAT until the REPEAT indication on the display goes off.

Listening to a Tape

Listen to a tape: How to use your tape deck

The tape deck allows you to play, record and dub audio tapes.

- ❑ To record or dub, see Recording page 14.
- ❑ With Automatic Tape Type Detection, you can listen to type I, II, or IV tapes without changing any settings.
- ❑ To play a tape and learn about the many easy-to-use features of the dual tape deck built into your CA-MXS2BK, read on here!

Playing Back a Tape

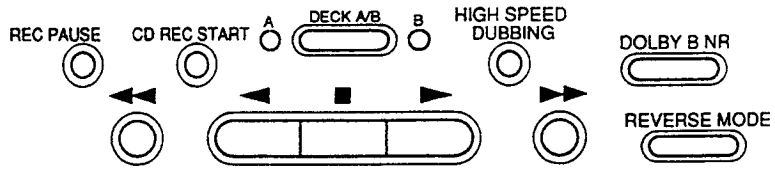
You can play a tape from either deck A or deck B, but remember: only deck B can record.

Easy-to-Use Tape Control Panel

New, Easy-to-Use Tape Control Panel

You control the tape transport functions like Play, Fast forward, Reverse, etc. from just one set of buttons. Many double cassette decks have a separate set for each cassette; but the CA-MXS2BK has one set. You press DECK A/B to select which deck, A or B, the controls will control. The LED labelled A (just to the left of the DECK A/B button) or the "B" LED (just to the right of the DECK A/B button) lights up so you know which deck the control buttons are controlling.

- ❑ When a tape is in either deck A or B, the Unit automatically detects which deck to control and makes the LED for it light up. The DECK A/B button does not function.
- ❑ When tapes are in both deck A and B, the Unit automatically selects the deck in which a tape is put later and makes the LED for it light up.
- ❑ The "A" or "B" LED only shows which deck you can control. **It never shows which deck is actually operating.** For example, the "A" LED will light up if you press DECK A/B or put a tape in deck A while you are recording on deck B.



Notice on the Remote, however, that deck A and deck B have separate control sections. So when using the Remote to control the tape deck, you don't have to select which deck the buttons control, you just use the buttons on the left for deck A and the ones on the right for deck B.

One Touch Play

COMPU PLAY

From the Remote:

By pressing Play Forward ► or Play Reverse ◄ for the deck you want to start, the power will come on, and if a tape is in the deck, it will start to play. If no tape is loaded, the Unit will come on and wait for further instructions.

From the Console Panel:

When you press Play Forward ► or Play Reverse ◄ the deck remembers which tape deck was used last, and that's the one which now comes on, and if a tape is still in it, starts playing the tape. What it actually remembers is which deck last had a tape inserted and its carrier door close, so if you last were listening to a tape in deck A, but since then have opened (with EJECT) deck B, inserted a tape and then closed it again, that's the deck that will be selected when you press Play Forward ► or Play Reverse ◄. You can override this memory by selecting which deck you want by turning on the power first and making the selection with DECK A/B.

Playback Procedure

Regular Play

When power is already on, you can use this basic procedure:

With the Remote:

1. Press EJECT, which is located just to the right of the deck, for the deck you want to use.
2. When the cassette carrier opens, put the cassette in, with the exposed part of the tape down toward the base of the CA-MXS2BK.
   - ❑ If the cassette carrier does not open, turn the Unit off, then back on again and press EJECT.
3. Close the carrier gently.
4. Turn the volume down. (See the Caution on page 8 about possible damage from setting the volume too high.)
5. Press Play Forward ► to play the front side, or Play Reverse ◄ to play the reverse side.
6. To stop playing, press Stop ■. To remove the tape, press EJECT.

From the Console Panel:

Follow the above procedure, except first use DECK A/B to select the deck with the tape you want to play if tapes are inserted in both decks.

Fast Left and Fast Right

From the Console, first select the deck with DECK A/B if tapes are in both decks. From the Remote, use the controls for the appropriate deck.

- ❑ While the tape is stopped, press Fast Left ◄◄ and the tape will wind rapidly onto the left side of the cassette without playing.
- ❑ While the tape is stopped, press Fast Right ►► and the tape will wind rapidly onto the right side of the cassette without playing.

Music Scan

Finding the place you want: Music Scan

The Scan function is very useful, quite easy to use, and only possible from the Console Panel.
When you scan forward, the tape advances rapidly to the beginning of the next selection and starts to play it. If you want to keep looking for another selection, scan forward again and keep repeating the procedure until you find what you are looking for.
When you scan in reverse, the tape runs rapidly in the reverse direction from which it was playing until it comes to the beginning of the selection that was playing. You can now listen to the selection again, or go to the beginning of previous selection by scanning in reverse again.

- ❑ The Scan function works by detecting a 4 second blank at the beginning of each selection, so it won't work well if your tape has:
  - No blank at the beginning of a track.
  - Noise (often caused by much use or poor quality dubbing) which fills the blank with noise.
  - Long, very soft passages or pauses in a selection. The scan will detect these instead of the 4 second blanks. If this happens, just go ahead and scan again until you reach the selection you want.
- ❑ Music scan only works on one tape at a time.

Here's the procedure for scanning:

Scan Forward

Scan Forward.....

With the tape playing, to find the beginning of the next selection, press Fast Right ►► or Fast Left ◄◄ whichever one points in the *same* direction as the highlighted, slowly blinking arrow in the lower right corner of the display.

- ❑ The tape will fast forward to the next selection and begin playing it.

Scan Back

.....Scan Back

With the tape playing, to find the beginning of the selection now playing, press the Fast Right ►► or Fast Left ◄◄ button pointing the *opposite* direction from the highlighted, slowly blinking arrow in the lower right corner of the display.

- ❑ The tape will fast reverse to the beginning of the piece and start playing it again.

Useful hints and features to know about when using your tape deck

More Useful Things to Know:
•Continuous Play
•Reverse Mode
•Dolby

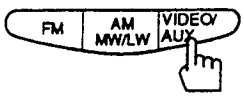
- ❑ **Continuous Play:** When a tape finishes playing, the Unit always checks to see if a tape is in the other deck. If one is there, it automatically starts playing it while rewinding the first tape. Continuous Play works regardless of which deck starts first.
- ❑ Use **Reverse Mode** to make the tape automatically reverse at the end of a side and start playing the other side. Press REVERSE MODE to change from Reverse Mode on, to Reverse Mode off, or from off, to on. The ⇄ is highlighted if Reverse Mode is selected. When Reverse Mode is turned off, only the central part—═—of the ⇄ in the display is lit.
  - If there is a tape in the other deck, it will start playing when both sides of the first tape have been played. As long as the Reverse Mode symbol ⇄ in the display is lit, the tapes will continue to play in the above sequence.
  - If Reverse Mode is off, the tape will play to the end of the current side, switch to the other deck and start playing a tape there while rewinding the first tape.
- ❑ Press DOLBY B NR to switch **Dolby Noise Reduction** on (DOLBY B is highlighted in the display), or if it is on, turn it off by pressing DOLBY B NR, and the DOLBY B display will dim. If a tape has been recorded with Dolby B NR, playing it back with Dolby on will reduce tape noise and improve the clarity of the sound.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈, are trademarks of Dolby Laboratories Licensing Corporation.

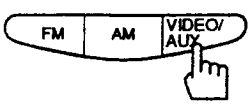
Listening to a VTR or TV through your CA-MXS2BK

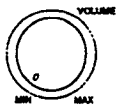
Advantages in Connecting a VTR or TV

By playing the sound from a VTR or TV through the CA-MXS2BK, you can often dramatically improve the quality, and gain control over how the music or program sounds. Once the connected equipment is playing through the CA-MXS2BK, you can apply the sound effects, make recordings, or listen with the headphones. Here are the steps to take:



1. Make a connection between the VTR or TV as shown on page 4.
   - ❑ Since there are many different types of VTRs and TVs, we can't tell you here just how to make the connections on your other equipment. However, the diagrams on page 4 will cover most cases, and you can also look in the instruction manual for the VTR or TV you have.
2. Set the Unit's volume to its lowest setting: use FADE/MUTING on the Remote, or turn the VOLUME control all the way counterclockwise.
3. Press VIDEO/AUX on either the Unit or the Remote.
   - ❑ If the Unit is off, it will turn on.
4. Turn on the VTR or TV.
5. Adjust the volume on the CA-MXS2BK.
6. To cancel VIDEO/AUX setting, change the source by starting any one of the CA-MXS2BK's built in sound sources, such as the radio or CD player.





Recording

What can you record?
- **Tapes**
- **Radio**
- **CDs**
- **Connected Source**

Recording onto cassette tape from any of the sound sources is easy and the CA-MXS2BK does most of the work. Just have a tape in deck B, have the source ready, make one or two settings, and you're ready to record.

For each source the procedure is a little different and now we'll explain just what to do for each one. If you forget, just come back to the section which has the specific procedures you need. But first, here are a few things to make your recordings better.

Things to Know before You Start Recording:

Copyright

- **It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.**

Reduce Hiss—Dolby NR

- Press DOLBY B NR (noise reduction)—DOLBY B lights up in the lower right corner of the display—to reduce tape hiss, except when dubbing from a tape which was already recorded with Dolby NR. Then it is better to leave the Dolby function off.

Recording Level

- The recording level, which is the volume at which the new tape is being made, is automatically set correctly, so it is not affected by the VOLUME control on the CA-MXS2BK. Thus, you can adjust the sound you are actually listening to without changing the recording. If you don't want to listen to the sound, you can turn the VOLUME control all the way down, or press FADE/MUTING on the Remote.

Erasure Protection

- Cassettes have a special feature so you won't accidentally record over a tape you want to save. Two small tabs on the back, one for side A and one for side B, can be removed to prevent erasure or re-recording. To record on a cassette with the tabs removed, you must cover the holes with tape first. However, when a Type II tape is used, only cover part of the hole as shown below, since the other part of the hole is used to detect the tape type.

(No. 20399) 1-17

Select Sound Effects

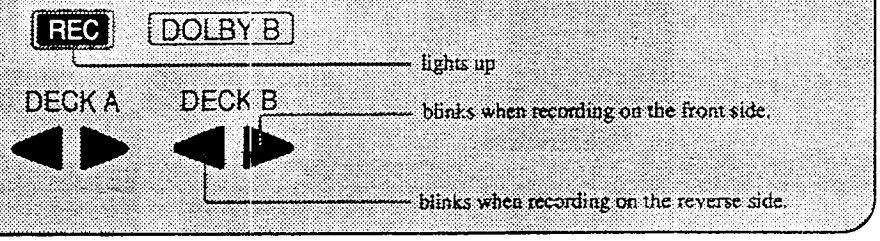
- When recording, you can select the sound effects with the preset sound effect buttons to condition the music as it is recorded. But when recording using Auto Edit or CD Direct, once recording has started, these settings cannot be changed. When recording from tape Deck A to Deck B, the sound effects cannot be used, because the signal doesn't go through the amplifier first. This method gives you the highest quality dubbed tapes.

- Type I and type II tapes can be used for recording. While type IV tapes can be played, type IV tapes cannot be used for recording on the CA-MXS2BK.

☞ If recordings you make have excessive noise or static, the Unit may be too close to a TV which was on during the recording. Either turn off the TV or increase the distance between the TV and the CA-MXS2BK.

Important!

Display Information for Recording
For recording, make sure the two points:
❑ The DECK B LED lihgts up before starting a recording;
❑ REC lights up and ► or ◄ for deck B blinks in the display during recording.
Without checking these two points, your recording will end unsuccessfully.



Standard Recording: Any Source to Tape

Standard Recording

This is the basic method for recording any source. The CA-MXS2BK also has special ways for recording CD to tape, and tape to tape, which save you time and effort, as well as give you some special effects.
However, when you need to add a selection to a tape you have made, or are combining selections from several sources on one tape, use the method we describe here; just substitute the source you want, such as a tape in deck A, or CD, or radio in this procedure. You can also record from a connected VTR or TV with this procedure.

Source to Tape: Step by Step

Recording any Sound Source to Tape

Follow these steps to record from any sound source onto a tape in deck B.

1. Press POWER so the LED on the VOLUME control glows.
   - ❑ Press REVERSE MODE to indicate ⇄ in the display if you want to record on both sides of the tape.
2. Load the tape you are making into Deck B.
3. Press REC PAUSE.
   - ❑ REC lights up in the display.
4. Prepare the source, for example, tuning in a radio station, loading a CD, turning on a connected VTR, etc.
   - ❑ If the source is already playing, Just press REC PAUSE, then press either Play Forward ► to record on side A, or Play Reverse ◄ to record on side B.
5. When you want to start recording, press either Play Forward ► to record on side A, or Play Reverse ◄ to record on side B of the tape.
   - ❑ Hint: any time a source other than deck B is playing, you can record by putting a tape in deck B, pressing REC PAUSE, then Play Forward ► or Play Reverse ◄ to start recording that source.

CD to Tape, Introduction

CD to Tape Recording

There are three ways to record from CD to tape:

- ❑ The standard method described above.
- ❑ CD Direct Record—Everything on the CD goes onto the tape in the order it is on the CD, or according to an order you have set in a program.
- ❑ Auto Edit—Your CA-MXS2BK figures out which selections to put on which side of the tape, so a selection isn't cut off before it's finished when the tape runs out.

CD Direct Record

CD Direct Record, Step by Step

1. Put the tape in deck B.
2. Load a CD into the tray and press ⏏ OPEN/CLOSE.
   - ❑ If you want to record on both sides of the tape, press REVERSE MODE to indicate ⇄ in the display.
3. Press CD REC START on the tape deck.

   - ❑ The Unit will automatically rewind the tape to the beginning of side A, create a 10 second blank, turn on the CD and start recording.
     - At the end of the tape, the CA-MXS2BK automatically goes back to the beginning of the last selection and re-records it, this time gently fading out at the end. If you selected the Reverse Mode, side B starts with the last selection on side A.
     - When the tape is finished, the Unit shuts off the CD and the tape deck and goes into Stand-by mode.
     - Any time during the recording process, you can interrupt by pushing either ■/CLEAR on the CD player or Stop ■ on deck B.

Recording a CD onto a Tape Using Auto Edit

Auto Edit, CD to tape, Introduction

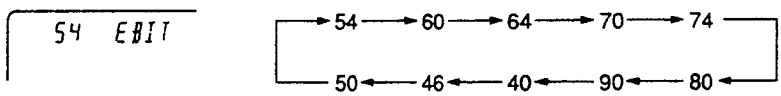
Using Auto Edit, you can arrange the CD tracks to fit the tape, so a selection isn't cut off when the tape runs out first. Auto Edit is one of the best ways to copy all of a CD onto a tape.

The selection of which tracks go on which side is based on the lengths of the tracks and the length of the tape. The CA-MXS2BK can figure out most of what it needs to know, but you will have to tell it the tape size you are using if your tape is a different size than the one picked by the program. Follow this procedure to record a CD using Auto Edit.

Auto Edit, CD to tape, Step by Step

1. Put the tape in deck B.
   - ❑ Press REVERSE MODE to indicate ⇄ in the display if you want to record on both sides of the cassette.
2. Load the CD into the CD Player.
   - ❑ If the CD is already loaded, be sure the power is on.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
4. Press ■/CLEAR.
   - ❑ This cancels the previous edit or program setting.
5. Press AUTO EDIT on the CD player. The system tells you the minimum standard tape length to use.

   - ❑ You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-MXS2BK: 40, 46, 50, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using SEARCH/EDIT TIME ⏮ or ⏭ until you find the length closest to your tape's actual length.



6. Press SIDE A/B, and the display shows which tracks will go on side A and which on side B. Each time you press SIDE A/B the display switches between A and B.

7. Now press CD REC START on the tape deck.
   - ❑ The tape automatically rewinds to the beginning of side A, a 10 second blank is created, and the CD begins to play and be recorded.
   - ❑ To stop recording any time during the process, press either Stop ■ on deck B or ■/CLEAR on the CD player. But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning.

Tape to Tape Recording (Dubbing)

Tape to Tape Dubbing, Introduction

Recording from one tape to another is called dubbing.
You can dub at regular speed for highest quality, or at high speed with a slight loss in sound quality. With high speed it takes only about one-half the time to copy a tape.

- ❑ Refer back to "Things to Know before You Start Recording" on page 14.
- ❑ Refer back to "Listening to a Tape" on page 12 if you have other questions about operating the tape deck.

How to Copy a Tape With Regular Speed Dubbing

Regular Speed Dubbing, Step by Step

1. Put the tape you want to copy *from* into deck A for playback.
2. Put the tape you want to copy *onto* into deck B for recording.
   - ❑ Anything already on the tape in deck B will be erased as the new sound from deck A is copied onto it.
3. Press REC PAUSE. Now deck B is ready to record.
4. Press Play Forward ► (or Play Reverse ◄) for deck B.
   - ❑ Deck B starts recording.
   - ❑ Make sure that no source is played this time.
5. Press DECK A/B so that the DECK A LED lights up.
6. Press Play Forward ► (or Play Reverse ◄) for deck A
   - ❑ Deck A starts playing.
7. To stop the regular dubbing, stop both deck A and B.

Important Dubbing Information

The type of tape (Normal or CrO_2) you record *from* must be the same as the type you record *onto* .

- ❑ When the tape you are recording from in deck A has been recorded with Dolby B NR, you should turn off the Dolby function by pressing DOLBY B NR on the tape deck so the indicator in the display is off.
- ❑ During regular speed dubbing you can only listen to the source tape. If you don't want to hear it, turn down the VOLUME control or press FADE/MUTING on the Remote. Only the sound you hear will be affected; the recording level is controlled automatically.
- ❑ You cannot dub using the sound effects such as DANCE CLUB, HALL, etc.

High Speed Dubbing

High Speed Dubbing, Step by Step

Although the quality of the dubbed tape is a little less, high speed dubbing is a very convenient way to record from one tape to another.

1. Put the tape you want to copy *from* into deck A, and the tape to be copied *onto* in deck B.
2. Press HIGH SPEED DUBBING on the tape deck. REC lights up in the display.
   - ❑ Both decks start, deck A playing and deck B recording.
     - If you want to dub both sides of the tape, make sure to press REVERSE MODE to indicate ⇄ in the display.
     - The sound you hear is strange because it is much faster than usual, and you may not want to listen to it. Turn it down with the VOLUME control, or press FADE/MUTING on the Remote.
     - When using high speed dubbing, you can also listen to another source such as the radio or the CD player, just as if you weren't dubbing.
     - During high speed dubbing, if you listen to a CD with Auto Power Off turned on, the whole Unit, including the tape decks, may turn off when the CD ends.

Recording selections from several different tapes

When you want to take selections from several different tapes and combine them on one tape during high speed dubbing, follow these steps whenever changing tapes in deck A:

1. Press DECK A/B to make the DECK A LED light up.
2. Press Stop ■.
   - ❑ This causes deck A to stop, so you can change tapes, while deck B makes a 4 second blank and pauses.
2. Change the tape in deck A.
3. Press HIGH SPEED DUBBING to start deck A playing and deck B recording again. REC lights up in the display.

How to use the Timers and Set the Clock

Two Timers:
•Record
•Sleep

The timers let you control recording and playing functions automatically. With the CA-MXS2BK they are particularly easy to set and use. Two types of timers are available:

- ❑ **Rec Timer**—unattended recording of radio broadcasts. You can set the starting time and recording duration.
- ❑ **Sleep Timer**—Fall asleep and have your CA-MXS2BK turn off automatically after a certain length of time.

NOTE: follow the procedure, step by step.

Whenever you are setting the clock or the timers, you will cancel the setting mode by pressing any other button than the one specified in the procedure. So be careful to finish the entire procedure before starting any other function, or you will have to start over.

Clock Setting

IMPORTANT!
Set your clock!

The timers depend on the clock: If the clock is right, the timers will work like you expect, but if the time is incorrect on the clock then the timers will also be incorrect.

- ❑ Clock setting is possible with the Unit either on or off.

Special Notice: The clock must be set, or the timers cannot be set!
So, let's set the clock first.

1. Press CLOCK ADJUST. (During setting, CLOCK in the display flashes.)
2. Now you are ready to set the *hour* by pressing TUNING/TIMER<or >: Press > to advance the hour, and < to decrease the hour. Each time you press TUNING/TIMER< or >, the hour changes by one. Hold the button down, and the clock will change one hour at a time as long as it is held down.
3. Press MEMORY and the hour showing in the display will be set, and the minutes digits will start to flash.
4. Now you are ready to set the *minutes* by pressing the same button, marked TUNING/TIMER < or >: Press > to advance the minutes, and < to decrease the minutes. Each time you press TUNING/TIMER < or > the minutes change by one. Hold the button down, and the clock will change rapidly in ten minute intervals (10,20, 30, etc.) as long as it is held down.
5. Press MEMORY again and the clock is set and starts from the hour and minute showing on the display.

☞ If there is a power failure, the clock looses its setting, the display shows "0:00" and it must be reset

Recording when you're not there

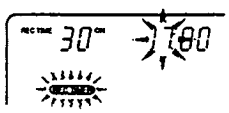
Setting the Recording Timer

With the recording timer you can make a tape of a radio broadcast automatically whether or not you are there to start the CA-MXS2BK. For the timer to work correctly, you need to make sure of two things in addition to setting the time for the radio and tape recorder to come on:

- ❑ The tape you want to record onto must be in deck B.
- ❑ The radio station whose program you want to tape must be the last one played before timer comes on.
- ❑ Setting the Recording Timer is possible with the Unit either on or off.

Follow this procedure to set the Recording Timer:

1. Press REC TIMER— REC TIMER flashes in the display. As long as it is flashing, you can continue with the setting process. If you wait too long, and it stops before you are done, just press REC TIMER twice and start over.
2. Set the time you want the radio to come on and the tape in deck B to start recording.
   - ❑ Just like setting the clock above: set the hour with TUNING/TIMER < or > , press MEMORY, set the minutes with TUNING/TIMER < or >, press MEMORY. The time to start recording is now set, and you are ready to set the length of time for the recording.
3. To set the length of time for the recording:
   - ❑ Each time you press the TUNING/TIMER < or > button, the duration increases by one minute. If you hold the button down, it will advance in ten minute increments up to 120 minutes, which is the maximum time you can set.



4. Press MEMORY again, or wait eight seconds, and the Unit will memorize the setting.
   - ❑ The REC TIMER indication in the display will stop flashing and be highlighted. The unit will now turn on at the set time and record the last station set when it was last turned off.
   - ❑ Notice that the REC TIMER indicator is lighted up on the display whenever the Recording Timer is set.
   - ❑ At the end of the set length of time the radio and deck B will shut off.
   - ❑ If you set no time, but leave the display showing —:—, the CA-MXS2BK will not shut off, but keep playing until you shut it off

REC TIMER

5. Whenever REC TIMER is lit on the display, you can press REC TIMER to turn it off. Although the timer will no longer come on and make a recording, the times you have set are stored in memory, and unless the Unit is disconnected from the power source, you can recall your settings by pressing REC TIMER again. To completely erase the settings, program another setting over the previous setting.

> ☞ It is very easy, and can be very disappointing, to forget to put in a tape, or to accidentally leave a tape in deck B you don't want recorded over. Although this happens to almost everyone sometimes, we hope it won't happen to you!
>
> ☞ When the recording timer switches the CA-MXS2BK on, the volume coming out of the speakers is controlled by the VOLUME control, so set it to MIN if you will be out or sleeping during the recording.

Sleep Timer

Sleep Timer: turns the Unit off automatically after a set time

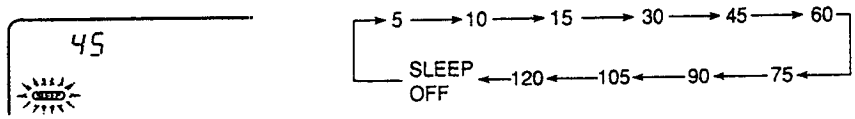
Use the sleep timer to turn the Unit off after a certain number of minutes when it is playing. Using this timer, you can fall asleep to music and know your CA-MXS2BK will turn off by itself rather than play all night.

- ❑ You can only set the Sleep Timer when the CA-MXS2BK is on and a source is playing.
- ❑ To cancel the Sleep Timer setting simply press SLEEP TIMER until the SLEEP indication disappears from the display. Turning off the Unit also cancels the Sleep Timer.

To set the Sleep Timer follow this procedure:

SLEEP TIMER

1. With the CA-MXS2BK on and a source playing, press SLEEP TIMER. The SLEEP indicator in the display will start blinking.
2. Set the length of time you want the source to play before shutting off with this procedure:
   - ❑ Each time you press SLEEP TIMER while the SLEEP indication is blinking, it changes the number of minutes shown in the display in this sequence:



   - ❑ The actual time when the CA-MXS2BK will shut off shows in the right hand corner of the display where the clock time is usually displayed.
   - ❑ When the number of minutes you want shows in the display, just wait 8 seconds until the indicator stops blinking, but remains lighted.

The Unit will now turn off after the number of minutes you have set.

> ☞ When the Recording Timer setting and Sleep Timer setting overlap, the former always has the priority. When the former timer starts activating, the latter will be cancelled.

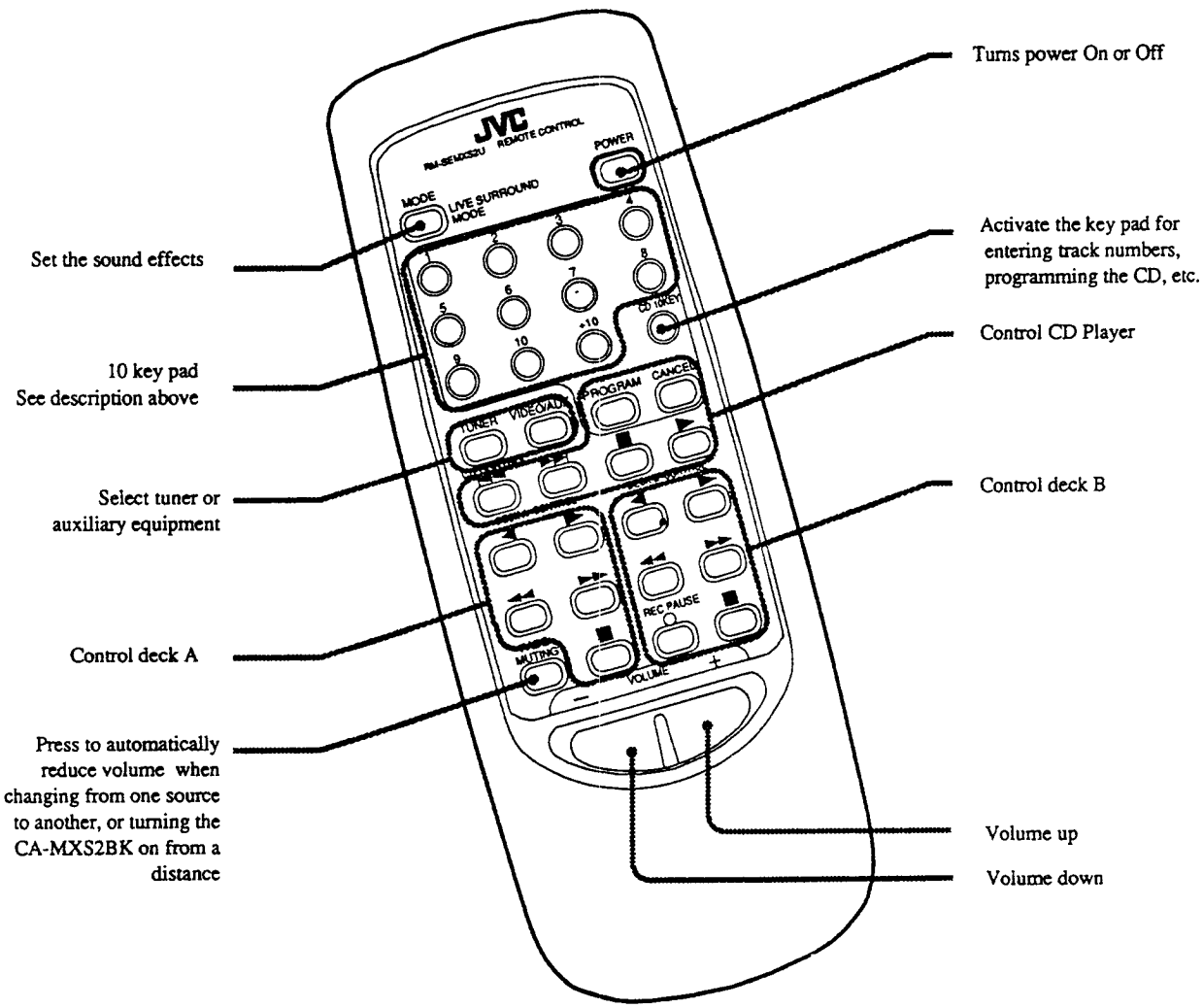
How to Use the Remote Control

The Remote Control makes it easy to control many of the functions of the CA-MXS2BK from a distance of up to 20 feet away. You do need to point the remote sensor at the CA-MXS2BK console.
Most of the buttons on the Remote Control do just what the ones on the front of the CA-MXS2BK do, and they are explained in the manual. A few functions are available only by using the Remote Control, and those are described below.

Using the 10 Key Pad

The 10 Key pad is used to specify a CD track or the number you have assigned to a preset radio station. To enter a number using the key pad follow these steps:

- When you use the 10 key pad for CD player, first press CD 10 KEY; when for the tuner, first press TUNER before pressing any 10 key.
- For numbers between 1 and 10, just press the button with the number you want.
- For numbers from 11 to 20, first press the +10 key, then the one's digit of the number you want—to get 15, first press +10, then 5. For 20 press +10 and 10 .
- For numbers from 21 to 30, press the +10 key twice; then press the one's digit—to get 25, press +10 +10 and 5 . For 30, press +10 +10 and 10
- For numbers from 31 and 40, follow the same procedure, only press the +10 key three times, then the one's digit—to get 32, press +10 +10 +10 and 2.

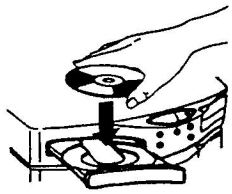


Care and Maintenance—General Notes

Compact Discs

Handle your compact discs, cassette tapes, and tape deck carefully, and they will last a long time.

- Remove the CD from the case by holding it at the edges while pressing the center hole lightly.
- Do not touch the shiny surface of the CD, or bend the CD.



- Place the CD into the open tray with the label facing up.

- Put the CD back in its case after use to prevent warping.
- Be careful not to scratch the surface of the CD when placing it back in the case.
- Avoid exposure to direct sunlight, temperature extremes, and moisture.

- A dirty CD may not play correctly. If a CD does become dirty, wipe it with a soft cloth in a straight line from center to edge.

CAUTION: Do not use any solvent (for example, conventional record cleaner, spray, thinner, benzine, etc.) to clean a CD.

In general, you will have the best performance by keeping your tapes, CDs, and the mechanism clean.

- Store tapes and CDs in their cases, and keep them in cabinets or on shelves.
- Keep the tape deck tape carriers and the CD tray closed when not in use.

Cassette Tapes

- If the tape is loose in its cassette, take up the slack by inserting a pencil in one of the reels and rotating.
- If the tape is loose it may get stretched, cut, or caught in the cassette.

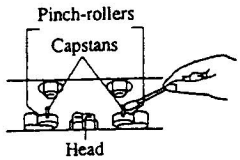
- Do not touch the tape surface.

- Do not store the tape:
  -In dusty places
  -In direct sunlight or heat
  -In moist areas
  -On a TV or speaker
  -Near a magnet

Tape Deck

- If the heads, capstans, and pinch-rollers of the tape deck become dirty, the following will occur:
  -Impaired sound quality
  -Discontinous sound
  -Fading
  -Incomplete erasure
  -Difficulty recording

- Clean the heads, capstans, and pinch-rollers using a cotton swab moistened with alcohol.



- If the heads becomes magnetized, it will produce noise or loose high frequencies.

- To demagnetize the heads, turn off the system, and use a head demagnetizer (available at electronics and record shops).

Troubleshooting

- If you are having a problem with your CA-MXS2BK, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	ACTION
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 3 and 4.)
Impossible to record.	Cassette record protect tabs are removed.	Cover holes on back edge of cassette with tape.
Hard to listen to broadcasts because of noise.	The antenna is disconnected.	Re-connect the antenna securely.
	The loop antenna is too close to the system.	Change the position and direction of the loop antenna.
	The feeder antenna is not properly extended and positioned.	Extend feeder antenna at the best reception position.
The CD sound is discontinuous.	The CD is scratched or dirty.	Clean or replace the CD.
Unable to operate the Remote.	The path between the Remote and the sensor on the Unit is blocked.	Remove the obstruction.
	The batteries are discharged.	Replace the batteries.
The CD tray cannot be operated.	The main AC power cord is not plugged in.	Plug in the AC power plug.
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built in microprocessor may malfunction due to external electrical interference.	Unplug the system then plug it back in.
The cassette carrier cannot be opened.	The system was turned off because the timer was operated while the tape was running.	Turn On the system.

Specifications

Amplifier

Output Power (IEC 268-3/DIN)

25 watts per channel, min. RMS, both channels driven, into 6 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

25 watts per channel, min. RMS, both channels driven, into 6 ohms from 60 Hz to 20 kHz, with no more than 0.9% total harmonic distortion. (only for Canada)

Input Sensitivity/Impedance (1 kHz)	
VIDEO/AUX	300mV/50 kohms
Speaker terminals	
Speakers	6 ohms

Tape deck

Frequency response	
CrO_2:	30 ~ 16,000 Hz
Normal:	30 ~ 15,000 Hz
Wow and Flutter	
(WRMS)	0.09%
(DIN)	0.2%

Tuner

FM Tuner

Tuning Range	87.5 ~ 108.0 MHz
Usable Sensitivity	0.95 µV/75 ohms (10.8 dBf)
Signal-to-Noise Ratio	
(IHF-A weighted)	MONO (at 85 dBf) 80 dB
	STEREO (at 85 dBf) 73 dB
(DIN)	MONO 72 dB
	STEREO 64 dB

AM (MW/LW) Tuner

MW-Tuning Range	530 ~ 1,710 kHz (only for Canada)
	522 ~ 1,629 kHz (except for Canada)
LW-Tuning Range (except for Canada)	
	144 ~ 290 kHz (only for Italy)
	144 ~ 353 kHz

Compact Disc Player

Dynamic Range (1 kHz)	90 dB
Signal-to-Noise Ratio	95 dB
Wow and Flutter	Unmeasurable

General

Power Requirements	For Canada: 120 V AC, 60 Hz
	For Europe: 230 V AC, 50 Hz
Power Consumption	For Canada: 95 Watts, 120 VA
	For Europe: 110 Watts
Dimensions (Approx.)	245 x 265 x 344.5 mm (W/H/D)
	($9^3/_4$ x $10^1/_2$ x $13^9/_{16}$ in.)
Weight (Approx.)	7 kg (15.4 lbs)

Supplied Accessories

FM wire antenna (1) (only for Germany)
FM feeder antenna (1) (except for Germany)
AM (MW/LW) loop antenna (1)
Remote control (RM-SEMXS2U) (1)
Batteries R03(UM-4)/AAA(24F) (2)
Antenna adaptor (1) (except for Germany)

Design and specifications subject to change without notice.